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REMARKS ON THE VEGETABLE CATHARTICS OF THE U. STATES.

BY JOHN C. ALLEN.

I OBSERVED with pleasure, in a late number of the Journal, an article on the vegetable emetics of the United States; and believing that any notice which may tend to attract the attention of the profession towards our indigenous productions, may be productive of advantage, I have been induced to offer a few remarks on the native and naturalized cathartic plants found in the United States, in hopes that others possessing better means of research will pursue the subject, and rescue it from the state of uncertainty in which it now remains.

In considering this class of remedies, the plants furnishing them will be spoken of according to classification of the natural orders, as given by Professor Lindley.

We do not find any native plant, said to possess cathartic properties, until we arrive at the third order, or the RANUNCULACEÆ, most of which, in a fresh state, are remarkable for their acridity, causticity, and poisonous qualities. These properties, however, are generally lost by the process of drying, or in watery infusion.

The only indigenous plant in this order known to possess cathartic powers, is the *Helleborus foetidus*; the root of which is stated by Allioni and others to be powerfully cathartic, emetic and anthelmintic; it is, in fact, the most active and energetic plant of the genus. Schopf says it is found in Virginia, and although not used in the United States, it is much employed in domestic practice in Great Britain; from its violent, and even poisonous qualities, it is always a dangerous medicine, and requires great caution in its administration.

The next order, PAPAVERACEÆ, contains the *Sanguinaria Canadensis*. The emetic properties have been fully described in a former number of this Journal. Both Schopf and Barton speak of its cathartic powers, but it is seldom administered as a purgative, not only on account of its uncertain action on the bowels, but also from the violence of its prior effects on the stomach.

The eighth order, PODOPHYLLEÆ, contains the *Podophyllum peltatum*, the root of which is generally acknowledged as one of the best of our native articles of the cathartic class. Dr. W. P. C. Barton asserts, from actual experiments, that it is fully equal to the common jalap of the shops, and the authors of the United States Dispensatory say, "It is an active and certain cathartic, producing copious discharges, without much griping or other unpleasant effect." The dose is from fifteen to thirty grains.

There are no decided cathartic properties ascribed to any of our indigenous species belonging to any of the succeeding orders, until we arrive at the seventy-fifth, or the AMYGDALÆ, and even the purgative power of any of the plants composing it are very problematical. The leaves and petals of the peach, *Amygdalus Persica*, are, however, stated to act on the bowels in large doses, and the fruit, like all others of a saccharine character, possesses slightly laxative qualities.

The seventy-seventh order, or the LEGUMINOSEÆ, is not only one of the most extensive, but also most useful of the vegetable kingdom. It presents several plants, among those which are native or naturalized in the United States, which are entitled to notice for their medical properties.

At the head of the list is indisputably the *Cassia Marilandica*, which, from the testimony in its favor, appears to form an excellent substitute for the Alexandrian senna; it, however, requires to be given in rather large doses. When intended for medical purposes, the leaves should not be collected until late in the summer, or about the time of the ripening of the seeds, as earlier in the season they are comparatively inactive.

The *Baptisia tinctoria*, according to Dr. W. P. C. Barton, is both emetic and cathartic in large doses, and this statement is confirmed by Thatcher; it is, however, very uncertain in its effects when administered internally, and its principal and important use is as application in decoction or poultice to gangrenous ulcers.

The *Colutea arborea*, which is extensively cultivated in gardens as an ornamental shrub, also forms a good substitute for senna, and is said to be used for the purpose of adulterating this drug.

The eighty-seventh order, or JUGLANÆ, affords but one species possessing purgative qualities. This is the *Juglans cinerea*, an extract of the inner bark of which is a mild and efficacious cathartic in doses of from ten to thirty grains. In its action on the bowels it somewhat resembles rhubarb, but leaves them in a more open state.

The eighty-eighth order, the EUPHORBIACEÆ, contains many plants possessed of decided cathartic powers. Most of the species of *Euphorbia* are medicinal, being endowed with purgative and emetic qualities, though they all have the disadvantage of being very uncertain in their effects. The most efficient and safest of our native species, with regard to purgative powers, is the *E. corollata*, but even this is very apt to create much gastric distress. The *E. lathyris*, which has become almost naturalized, also presents some claims to attention. The oil expressed from the seeds acts very similarly to the oil of tiglīi, requiring, however, to be given in larger doses, and not being as certain in its effects.

The most important plant of this order, in a medical point of view, is indisputably the *Ricinus communis*, which although not a native, has become naturalized by cultivation. The oil procured from the seed of this plant is perhaps the best of the mild purgatives, and is used more universally than any other article of its class; it is too well known to render it necessary to remark further on its properties or virtues.

Order ninety-sixth, or RHAMNEÆ, possesses but one native species that requires notice, the *Rhamnus catharticus*, the berries of which are

an active purgative, but are seldom used, on account of their nauseous taste and unpleasant action on the stomach and bowels.

The one hundred and twenty-ninth order, POLYGALÆ, contains many medicinal plants, but the only one that possesses any purgative qualities is the *Polygala senega*, the root of which is extensively used as an expectorant and diuretic ; in large doses it is also emetic and cathartic ; the latter effect, however, is seldom obtained without emesis also taking place, a circumstance that precludes its use as a purgative, in most cases.

The great order of VIOLACEÆ and the beautiful PASSIFLOREÆ, as well as the beautiful SARRACENIÆ, and many others of the succeeding orders, are not known to contain any native plants whose purgative powers are worthy of notice.

In the one hundred and fifty-fourth order, PHYTOLACCEÆ, the *Phytolacca decandra* is the only plant possessing cathartic properties. In this species, however, they are of a high order, although it is difficult to administer it without also producing emesis. Some caution is necessary in its use, as it is liable, when given in large doses, to produce convulsions and unpleasant narcotic symptoms.

The one hundred and ninety-first order, CAPRIFOLIACEÆ, comprises a number of plants, which, whilst they form the delight of the florist, are also of great interest to the physician. The root and inner bark of the *Sambucus Canadensis* are said to be drastic purgatives. This is also the case with the leaves, especially in a young state ; they are always unsafe, from their uncertainty of action, sometimes operating so violently as to produce great distress.

The root of the *Triosteum perfoliatum* is a mild cathartic in doses of twenty or thirty grains, but in larger quantities is apt to affect the stomach.

In the one hundred and ninety-fifth order, or the ASCLEPIADEÆ, almost all the species are possessed of acrid and stimulating qualities, though few of them act on the bowels ; some of our native species, however, are slightly purgative, in addition to their other powers.

The one hundred and ninety-seventh order, GENTIANÆ, although generally characterized by the tonic properties of the species composing it, contains a native plant that has attained some celebrity in domestic practice as a cathartic. This is the *Frasera Walteri*, the root of which, in a fresh state, acts in a prompt manner on the bowels, and is often substituted for rhubarb. When dried, it loses its purgative powers, but forms a valuable tonic biter.

The one hundred and ninety-eighth order, SPIGELIACEÆ, is more remarkable for its verminifuge than its purgative qualities, though when administered in large doses the *Spigelia Marilandica* will act on the bowels : it is generally necessary to combine some more efficient article with it to ensure that effect.

The two hundred and eleventh order, SCROPHULARINÆ, includes many acrid and suspicious plants which act on the bowels. The *Gratiola aurea* possesses all the properties of the *G. officinalis* of Europe, but is seldom used. In small doses it is an active and a safe purgative ; but in large ones it is apt to excite nausea and vomiting.

From the foregoing remarks, it may be perceived that but few of our indigenous vegetables can be depended on as cathartics ; a few among

them, however, are deserving the attention of the physician, and in case of need may be substituted for the more expensive foreign drugs. Thus the roots of the *Podophyllum peltatum* form a good succedaneum for jalap; the extract of the bark of the *Juglans cinerea* for rhubarb; whilst the leaves of the *Cassia Marilandica* are identical in their effects with the imported senna.—*Jour. of the Phil. Col. of Pharmacy.*

AN ESSAY ON THE DISEASES OF THE HEART, CONTAINING A NEW HYPOTHESIS BY WHICH THE PHYSICAL SIGNS ARE EXPLAINED.*

BY CHARLES HOOKER, M.D.

[Communicated for the Boston Medical and Surgical Journal.—Continued from p. 363.]

PERCUSSION.

Percussion is the examination of the interior of the body by striking lightly on the surface of the part to be explored, for the purpose of observing the sound thus elicited.

When percussion is applied over any part of the body distended with air, as the lungs, stomach or intestines, it elicits a clear, hollow sound; on the contrary, when applied over a solid, as the heart, or liver, it elicits an obscure or dead sound.

This important method of investigation was first proposed, about the middle of the last century, by Avenbrugger, a native of Styria, and a graduate of the University of Vienna, who published a treatise on this subject in 1763. His discovery was slightly noticed by Van Swieten and Stoll; and a translation of his Treatise was published in Paris in 1770: but the subject seems to have attracted little attention, until revived by Corvisart, whose translation of the Treatise of Avenbrugger, in 1808, with his own investigations, gave the art a general celebrity.

This art has lost none of its importance, but, on the contrary, is rendered more valuable, by the discovery of auscultation. The two methods mutually aid each other, and together afford certain and clear indications in many cases, which, with either one singly, would be doubtful and obscure.

The manner of percussion recommended by Avenbrugger and Corvisart, is to strike suddenly, though lightly, with the ends of the middle three fingers—the fingers being pressed closely together, and striking with the last phalanges perpendicular to the surface of the part percussed. An improvement in percussion has been proposed by M. Piорри, a physician of Paris, which consists in laying upon the surface to be percussed a thin plate of ivory, wood, or stiff leather, on which the stroke is inflicted.

Percussion is, therefore, like auscultation, of two kinds—*direct* or *immediate*, and *mediate*.

Direct or *Immediate Percussion* is performed by striking directly against the surface of the body. It is not necessary, however, that the

* When this Essay was commenced, it was the intention of the writer to restrict his remarks, as implied by the title in the former numbers of the Journal, chiefly to *Auscultation as applied to Cardiac Diseases*; but, at the suggestion of several friends, he is induced to give a brief view of the physical signs, and the symptoms generally, and also the treatment of this class of diseases.

part of the body to be percussed should be uncovered, though it is desirable to have over the part only some thin article of clothing.

Mediate Percussion is performed by striking against a plate of ivory, or some other hard substance, laid on the surface of the part to be explored. This plate, through the medium of which percussion is performed, is called a *Pleximeter*—from the two Greek words *πλήσσω*, to strike, and *μέτρον*, measure—the instrument being a sort of measure or graduate of the percussion.

Mediate percussion has several important advantages over the immediate method.

It is more generally applicable—as immediate percussion cannot be advantageously practised over portions of the body covered with much clothing; nor over portions where the soft parts are thick, as the anterior portions of the chest covered with the mammae, and the posterior portions where there are thick muscles, and in general where there is considerable œdema or adipose substance—these circumstances, in immediate percussion, occasioning an obscure, dull sound; whereas, in mediate percussion, the clothing and soft parts are compressed, with the artificial pleximeter, or with the left index finger, so as to form a dense vibrating medium, which affords a distinct, clear resonance. Mediate percussion, also, occasions less pain, and can therefore be more generally applied, in those cases in which there is uncommon tenderness of the surface, as from inflammation, eruptions, a blister, &c.

It is thought, moreover, to be more delicate than direct percussion, in affording minute distinctions of sound; and more definite, in indicating the precise limits of diseased parts.

Different substances and different forms have been recommended, for the construction of the pleximeter. M. Piorri recommends a thin circular piece of ivory about two inches in diameter; which, for convenience sake, is attached with a screw to the stethoscope. Others use for this purpose the separable ivory or horn ear-piece, which is attached to some stethoscopes; but the circular hole in the centre of the ear-piece is thought by many to be an objection to its use as a pleximeter. Others employ a circular piece of stiff leather: and it has been recommended, also, to carry two such pieces of leather—one to be applied to the surface of the body, as a pleximeter, while the percussion is made on this with the edge of the other, instead of with the ends of the fingers. Others apply to the surface to be percussed, the back of the index finger of the left hand, and percuss on this with a single finger (either the index, or the middle finger) of the right hand. Dr. A. G. Bristol of Canandaigua, New York, and Dr. H. D. Bulkley of New York City, who have resided some time in Paris, and to whom I am indebted for several valuable suggestions on the subjects of auscultation and percussion, inform me that they prefer the latter mode; and that this mode is practised by M. Louis, and several others of the most dexterous percussists of Paris. In the earlier part of my practice, I made trial of immediate percussion; subsequently, for about two years, I used, with much more satisfactory results, the ivory pleximeter of M. Piorri; but during

the last two years I have given a preference to the employment of the finger as a pleximeter.

Besides the objection of the unnecessary multiplying of apparatus, several considerations induce me to prefer the forefinger of the left hand to the artificial pleximeter.

By feeling with the finger we can better select the precise points for percussion; and a difference of position, of even half an inch, will frequently occasion a considerable variation of resonance, as, for instance, whether the point percussed is directly over a rib, or in an adjoining intercostal space. By feeling with the finger, we can, also, detect any extra folding of the clothing—a circumstance which would considerably modify the sound; and we can better determine what degree of pressure is required to produce a suitable compression of the clothing and soft parts. Another advantage depends on the acoustic principle, previously explained (p. 248), that the vibrations producing sound are better propagated by media of similar density, than by media of different density—hence the finger, being a medium similar to the parietes of the chest, propagates these vibrations better than substances of a different density, as ivory, horn, &c. The finger, moreover, pressed closely on the surface, *feels* a vibratory sensation, after the stroke, by which the practitioner soon acquires a tact of assisting his diagnosis: and, owing to this, the practitioner can always judge better with regard to the condition of the part percussed, than a bystander who decides simply from the sound elicited.

Several writers who recommend the employment of the finger, as a pleximeter, direct the percussion to be performed by striking *on the back* of the finger: but the sound elicited is much more clear and definite, when the back of the finger is applied to the chest, so that the stroke is received on the soft, fleshy part of the finger; as any person will be satisfied, who makes the experiment. This difference is particularly observable in percussing the chest of a very lean subject. The reason is obvious, from a consideration of the principle previously explained—there being in this case a less frequent change of the density of the vibrating medium. The soft, fleshy part of the finger with which the stroke is inflicted, impinges against a similar part of the finger used as a pleximeter; and the latter is applied to the chest, so that bone is pressed against bone, with only the two similar, thin coverings of skin intervening.*

General Indications afforded by Percussion.

The variations of the sounds elicited by percussion depend upon the accumulation or deficiency of air in the part explored. These different variations are distinguished by the terms *clear*, *dull*, *obscure*, and *absent*. The terms *dead* and *fleshy* are, also, frequently used, in the same sense as absent.

* The late Dr. Eli Todd, the eminently talented physician of the Connecticut Retreat for the Insane, for many years practised percussion with much skill; and considered it as an important means of diagnosis in the various diseases of the chest. He commonly practised the direct method, with the middle finger of the right hand. He ordinarily commenced with a single rib at its junction with the sternum, and, percussing on different points successively, he followed the rib around to the back. After tracing each of the ribs, or several of them, in this manner, he next percussed over the sternum. The Doctor was exceedingly fond of music:—in conversation with me, he once remarked, that he had often listened with admiration to observe the great variety of musical tones which are sometimes elicited from a single rib.

If percussion is applied over a thick portion of healthy lung, or over the stomach or intestines considerably distended with air, it elicits a clear sound; and if these parts are over-charged with air, the sound is *preternaturally* or *morbidly* clear. A lung moderately engorged with blood or serum, or the thin portions of the inferior lobes of the lungs in their healthy state, or the stomach or intestines but moderately distended with air, afford a *dull* resonance. The term *obscure* is commonly used to designate a less degree of resonance than dull. A part which contains no air, as the liver or an hepatized lung, or a lung firmly compressed by liquid effusion within the thoracic cavity, affords no resonance—or, in such cases, the resonance is said to be *absent*, *dead*, or *fleshy*.

The Application of Percussion in exploring the Heart.

The precordial region ordinarily affords a dull or obscure resonance; but, owing to the proximity of the lungs and the stomach, the resonance is commonly not entirely absent. In cases of dilatation of the heart, either with or without hypertrophy, and in cases of a liquid effusion into the cavity of the pericardium (*hydrops pericardii*), the resonance is sometimes absent about the middle of this region, and the dull sound is increased in extent. In *hydrops pericardii* the pericardium acquires a conical or pear-shaped form, so that the lateral extension of the dull sound is greatest, especially in an erect posture, at the lower part of the precordial region: whereas, in dilatation of the heart, the lateral extension is greatest in the middle or upper part of this region. But to distinguish these two affections, by percussion *alone*, requires a dexterity in the art which few can expect to attain: the aid of auscultation, however, commonly renders the diagnosis easy and decisive.

In exploring the heart by percussion, it should be borne in mind that an extension of the dull sound may be occasioned by the solidification of a portion of lung contiguous to the heart, by liquid effusion into the cavities of the pleura or mediastinum, and by an enlargement of the liver. In the most of these cases, auscultation will prevent any error in diagnosis. Simple hydrothorax, indeed, may commonly be distinguished from any affection of the heart or pericardium by percussion alone, if the patient is percussed in different postures; as the weight of the liquid causes it to settle in the most depending part of the cavity of the pleura, and, in the recumbent posture, unless the effusion is very great, the resonance is clear around the precordial region.

[To be continued.]

EXPERIMENTS ON CHLORIC ETHER.

To the Editor of the *Boston Medical and Surgical Journal*.
SIR,—The writer of the following is a most intelligent and indefatigable young gentleman, who has carried his experiments very far with some of the most active articles of the *Materia Medica*. I thought the following experiments with a new medicine, or one in comparatively limited use by the profession, worthy of publication; and with the consent of the writer, I transmit them to you for that purpose, if you should think

them worthy of a place in your Journal. Others, equally interesting, with most of the active narcotics, have in the course of the last two years been made by him.

W.

Newington, Ct. Jan. 6, 1834.

DEAR SIR.—The following is an account of an experiment on what is called in New Haven, Chloric Ether, in which I was concerned. The definition of an Ether, given in the books, is "a combination of proto-carburet of hydrogen with some acid." This, however, is a combination of two proportions of proto-carburet of hydrogen with one of chlorine. It is taken up by alcohol, but I do not recollect in what proportions. Guthrie's alcoholic solution is mostly used about New Haven. The weakest is one part of the ether to twelve alcohol, but I do not recollect the strength of the other. That with which our experiment was made was considered full as strong as the strongest, and was prepared by distilling alcohol from chloroxide of calcium at a gentle heat.

Several experiments had to my knowledge been made with it, the result of which went to prove not only that it is not stimulant, as has been stated commonly, but positively refrigerant or antiphlogistic. It was to the determining of this point mainly that our attention was directed.

The time of our experiment was about the first of last February. The subjects were a Mr. N., Mr. S., and myself. Mr. N. was in bad health. My health was about as usual, a little dyspeptic. S. was in perfect health. All three rather insusceptible, at least to the action of exhilarants. At 8 o'clock in the evening I began and took 3*j.* in about eight or ten times its bulk of water. Little effect, except a feeling as of glow in stomach. In a few minutes took 3*ij.* more, in a proportionate quantity of water. Slight exhilaration followed, attended, which seemed rather odd, by a tendency to sleep, as I was at this time alone. At 9, S. and N. arrived, attended by two other gentlemen, by whom the pulses were examined, as well as all the other circumstances in relation to the case, and note made on the spot. The ordinary rate of my pulse is about 55 in a minute, and irregular; but at 9 o'clock it was increased to 75, but natural in strength. We then all began together, and took the same doses at the same intervals; but I shall relate each case separately.

I took at 9, 3*j.* in about ten times its bulk of water. The glow in the stomach was again felt, with a sensation of distension, as though from the warmth of the stomach part of the substance had assumed a gaseous form. This was felt at each succeeding dose. Some exhilaration. Ten minutes past 9 took 3*j.* Pulse 65. Not perceptibly altered in force. Twenty minutes past 9 took 3*ij.* Exhilaration very decided, and, as the notes taken by the other gentlemen say, I became very loquacious. Thirty-five minutes past 9 took 3*jss.* Extremities somewhat cold, and their sensibility diminished. Exhilaration high, with great disposition to muscular action—cutting up all manner of capers, singing, dancing, &c. &c. This propensity could be resisted. At the same time, if I sat still two minutes and was not spoken to, there was great disposition to sleep, and at this time I slept a few minutes in my chair. Five minutes past 10, took 3*ij.* Sensibility of the extremities still further diminished, as well as their temperature. Exhilaration still increased, and it began to

be difficult to regulate my movements. Twenty-five minutes past 10 took 3*ij.* Pulse at this time 60. I was now almost constantly capering about. The force of pulse, notwithstanding the exercise, was not increased, but seemed rather diminished. At 11, being asleep, the pulse was 56, remarkably soft and gently undulating, and easily stopped by pressure. Half-past 11 still asleep, but easily roused; but the gentlemen who attended say I was so turbulent that they could not undress me. Of being roused, however, I have no recollection; but I have always been something of a sleep walker and sleep talker, and never or very seldom recollect anything I do or say when asleep. I was awakened by a sense of coldness at about half-past 2. Soon went to sleep again, and slept till morning. Pulse before rising, 46. The very soft undulating beat of last night was still more conspicuous. Till I went to sleep I was perfectly conscious of what I was about, and had the ability to restrain from actions that I felt a disposition to do. Disagreeable sensation of stomach and bowels in the morning, feeling as though a cathartic had been taken, which had operated on the upper bowels but not on the lower. This was followed by some diarrhoea. Still the lower bowels did not seem to be near as much affected as the upper and middle. The stomach and upper part of the alimentary canal seemed to contain a quantity of fluid, and to have lost its power of contracting—it seeming to dilate passively, as the uterus does in blind hemorrhage. At the same time there was a craving appetite, and food for a time seemed to brace up the stomach; but the sensation soon returned. It was best relieved by stimulants and acrids. There was an unusual sense of coldness, and great sensibility to the impression of cold air, with a pale shrunken countenance, and I was said to look "as though I had lost all my friends." This state continued for a week or more, and I did not thoroughly recover short of a month. An indisposition to muscular effort, without actual deprivation of strength, also remained. Notwithstanding the state of the stomach, a considerable degree of exhilaration remained the next day; but afterwards I was flat enough, and was obliged to quit study three or four days. There was evident increase of urine while under the influence of the ether, but I think no more than would be produced by inducing an equally cool state of skin, and drinking the same quantity of water. The pulse was often particularly examined, in order to detect any increase of strength; but none was detected, and towards the close of the experiment its force was evidently diminished.

Mr. N. began at 9, and took the same quantities, at the same intervals, that I did, except one dose of 3*j.* which he took when I was asleep. He had headache when he commenced, which was not relieved until a late period in the experiment. He noticed particularly, through the whole experiment, a thrilling sensation through the head. The same sensation was experienced in a less degree by both the others. His pulse was increased a few beats in frequency, but otherwise it was similarly affected to mine. There appeared to be considerable diuretic effect in his case, and he was obliged to void urine often. There was rather less disposition to muscular exertion than in my case. Otherwise, precisely the same effects. The stomach and bowels affected in the same way, but in a greater degree. Whole quantity taken, 3*xjss.*

Mr. S. began at the same time with N. Took the same doses, at the same intervals. Pulse at first 75. Complained of some indistinctness of vision and numbness of fingers by the time he had taken 3 ss. The effect otherwise same as in both the other cases. Pulse, at twenty-five minutes past 10, was 60. Fifteen minutes after, it was 56; and thirty minutes after, it was 54. Effect on the kidneys less than in either of the other cases. Bowels affected as in the other cases, but to a less degree, as he is rather insusceptible of a cathartic operation.

Nobody that I know of had doubted the nervine, or exhilarant powers, of this article, and I think there is as little doubt of its being refrigerant. Refrigerant effects were quite prominent, though the alcohol taken in my case was equivalent to more than 3 iij. of proof spirit. This effect, however, is less prominent than its nervine effect. I have known of its being tried in several instances, but in none was it pushed so far as in this; yet in all I have known, where exhilarant effects were very evident, there was rather a diminution of the temperature of health, and some disorder of the bowels, and in none that I ever have heard of has any increase of force of pulse been noticed, though the weakest solution (one part to twelve alcohol) was used. The soporific effects, which are very oddly blended with the exhilarant, have by some been attributed to the alcohol: but they were evident in our case before more than 3 ss. was taken; and the effect of this quantity, taken as it was at intervals, in divided doses, would be, so far as it went, to make the person taking it feel wide awake. I have known 3 ss. taken by a person accustomed to the use of ardent spirit, put him to sleep in a very short time when left to himself. The use of this article will probably be of most benefit in acute diseases, especially of the synochous type, to obviate irritability, restlessness, and heat of skin; and I do not think its refrigerant effect sufficient to contraindicate it here. In diseases of children, especially when not of too low a grade, it must be highly valuable; and as it is about the most pleasant drink I know of, they would take it without much trouble. I think it may be used with advantage to cover the taste of disagreeable articles. I know that a mixture of one part of this, with two of tincture of sanguinaria, is not at all unpleasant to the taste. I do not think it can be of much use in chronic diseases, as its refrigerant effects are too great to be used steadily for any long time in any quantity, at least in ordinary chronic affections. Perhaps, however, by combining it with tonics, acrids, or stimulants, it may answer a good purpose even there. It is not impossible that some of your patients, who require great quantities of conium, stramonium, &c. &c., to keep them quiet, might be more susceptible to this. The New Haven physicians use it for the same purposes as they do the sulphuric, and with about the same effect, and I do not think there is much difference. Guthrie's strongest solution is just about equal, as a nervine, to the same bulk of sulphuric ether. It produces the same effect on the mucous membrane as sulphuric ether, probably, overcoming torpor and increasing susceptibility in them; and if applied in a concentrated state, would induce erythematic inflammation. To this operation of medicines, Professor Tully gives the name of *vital irritant operation*. I do not know as it ever has been applied externally, but think it would be found to be quite an active rubefacient. If the old-

fashioned synocha, or cauma and caumatoid diseases, ever come about again, as probably they will, this, largely diluted with water, must be of service as a grateful beverage. It could not be taken with benefit unless largely diluted, owing to its irritant effect on the mucous membrane. I have experimented with several other articles of the Materia Medica, before and since, on my own person, but never have been so much disordered in health by any as by this. The effect of narcotics, though when pushed to ultimate narcosis they are disagreeable, are yet transient, even if left to themselves; and if stimulants and nervines are used, their effect is soon carried off. I never was worse in health twelve, or at most eighteen, hours after taking any narcotic, though I have pushed some of them, I can assure you, to an extent no way pleasant at the time.

On the 7th of January last, at half past 10, A.M., I swallowed twenty or twenty-five of the berries of the *Prinos verticillatus*, which were just broken open between the teeth. These berries had been frost-bitten; and what effect this had on them, I do not know. I was led to do so, by the taste and impression left in the fauces by two or three I had tasted the day before, to find out what they were. A sensation of acrimony was left in the fauces half an hour, which was much like that produced by some of the active deobstruents. In about half an hour began to have a feeling as if something was going on in the stomach different from what had been going on there, and sensations all over like those which attend nausea. Still the feeling at the stomach was not that of proper nausea, but I thought it would produce vomiting. Sensation as of a strong cathartic operating, followed. Notwithstanding this, appetite not diminished, and I ate a hearty dinner at fifteen minutes past 1. Inclination to evacuate the bowels at 2; but on going out, the act of walking seemed to excite sympathetic action of the muscles concerned in the act of vomiting, and the stomach was evacuated. A little bile was thrown up. Had a natural loose stool immediately after. Felt now free from disagreeable sensations. In half an hour had a most profuse evacuation of the bowels, consisting of their natural contents, diluted with an immense quantity of greenish liquid. This was attended with no pain or uneasiness. In about an hour and a half, had another similar evacuation, but less in quantity. After this I felt remarkably well, but as though I had lost, as probably I really had, ten or twelve pounds in weight. Appetite and digestion much better than usual after this.

The acrimony of these berries seems to reside in the pulp, around the seeds, which might easily be separated. I never have been able to make further experiments with it, or to coax any one else to do so. I should judge, from its effects on myself in this one instance, that it would be found a useful article in dropsy; and it leaves the stomach and bowels in good condition, which last is a great recommendation. It will probably be found to be deobstruent. However, the experiments of a single individual amount to but little. I am extremely susceptible to some articles, and almost entirely insusceptible to others. I intend making further trials with this, when I can find some of the berries. I wish you would set some one to work at it, as I am desirous of having my experience confirmed or disproved.

I am; &c.

X+Z.

NEW REMEDY IN INTERMITTENT FEVER.

BY W. A. GILLESPIE, M.D. OF LOUISA COUNTY, VIRGINIA.

[Communicated for the Boston Medical and Surgical Journal.]

THE following pill, the composition of which I learned from one of the physicians to the Baltimore Infirmary, has been very successful in my hands. I wish, therefore, to communicate it to the faculty for further trial. After premising the necessary evacuations, the pill is to be given precisely an hour and a half before the regular, expected return of the chill. This remedy in my hands has succeeded in a number of cases, in some where bark had been tried in vain; though I am unwilling to place that confidence in it yet, which it seems entitled to, until it is farther administered under every variety of circumstance. An eminent physician has informed me that he has succeeded in arresting the paroxysms 39 times in 40. My success has not been equally great, but sufficient to excite an interest in the remedy, which I wish to be tested by all practical observing physicians.

R. Camphor ij. grs.

Opium iiii. grs.

Calomel v. grs. Flat pills, to be given as above.

From my observations the paroxysms are not more liable to return, if as much so, as when they are checked by bark or quinine. It has succeeded in quotidian, tertians, quartans, and irregular intermittents.

In addition to this, I can add that I shall not attempt to explain the modus operandi of the remedy; but it is probable that a greater impression is made on the nervous system by it than by the miasmata which produce intermittents, thus breaking up that associative, periodical train of symptoms, which constitute intermittent disease. I have prescribed this pill in intermittent neuralgia with success.

Ellisville, Dec. 15, 1833.

CASE OF RARE MALFORMATION.

[Communicated for the Boston Medical and Surgical Journal.]

MR. EDITOR.—There was born in Boston, a few weeks ago, a male child with a peculiar malformation. The external parts about the rectum had the usual appearances, and there was of course no suspicion with regard to the healthy arrangement of those the more internal. On the second day there had been no movement of the bowels. Oil was given, which had no effect; and injections were ordered, which could not be given. Various attempts were made with different sized bougies and probes to find a passage into the body, but none could be found. As the appearances of the vent were perfect, it was thought probable that the rectum had reached the external parts in a closed state, and the object was to open it and secure a passage. This was attempted with the oiled finger and a partial use of the knife. There was but little difficulty in making this passage. At the distance of about two inches a substance was discovered, which seemed to have no connection with the

neighboring parts, and was supposed from its feel and consistence to be a sac. The bistoury upon a grooved director was passed into this substance. A small quantity of meconium followed. On the third day from the operation, the child died, and was examined on the fourth. All the abdominal viscera were perfect in form and arrangement, except the rectum. This organ was very imperfect. It had finished its course at the edge of the pelvis in a well-defined *cul de sac*. The bistoury had opened this sac in its most dependent portion, but had failed in giving those necessary powers to parts, which nature had denied them.

MEDICUS.

BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, JANUARY 22, 1834.

MALFORMATION IN CHILDREN.

THE foregoing case of malformation, which has been sent us by one of our most eminent practitioners, is of exceeding rare occurrence. Indeed none, we believe, of precisely the same description, is to be found on medical record. Although the sphincter was present and perfect, there was an entire blank between the external integuments and the saccular termination of the rectum—a distance of about two inches; and it is not probable—if indeed it were possible—that by any artificial means, such opening and adhesions could have been effected, as to offer the little subject any chance of a healthy continuance of its existence. The case brings to our mind two of our own, that were somewhat analogous. Of these, one was made the subject of operation, and the other left to its course. In the first, when a day had passed without any evacuation from the bowels, oil was administered without effect, and an injection ordered. It was found impossible to administer the latter, and on the third day the part was examined. At about an inch and a half from the sphincter an obstruction was found, which, from its convexity downward and compressibility, was judged to be membranous. On the section of this partition, meconium was abundantly evacuated. We were never able, however, to restrain the diarrhoea that ensued; and although the babe nursed well, it cried always except when under the influence of an opiate, and lived a three months life of discomfort to itself and those who had the care of it. In the other instance the passage from without was found to become gradually smaller, till, at about two inches from the sphincter, it would not receive the smallest probe. Here was evidently no inducement for the interference of surgery. The child lived three weeks without suffering much pain, taking no food of consequence, and little else than paregoric. On examination after death all the organs were found perfect except the intestine, which, on tracing it downward, was contracted, about four inches from the vent, into an impervious string. This string went on about two inches, and then opened into the external sac that we have described. The smallest probe could not be passed from the outer sac to the inner. In this state, it was somewhat extraordinary that the child should have survived the third week.

From a review of these and similar cases of malformation of which we

have heard or read, it would appear that there is not any sanguine hope of affording permanent benefit by operation, unless the remove from natural structure be extremely slight, and such as may be entirely remedied by a very limited use of the knife.

ACTION OF THE PHARYNX IN PRODUCING ARTICULATE SOUND.

SIR CHARLES BELL, in his paper on the organs of the voice, introduces some new views on the action of the pharynx, which he considers as forming a kind of reservoir or bag, from which a current of air into the mouth is maintained independent of the action of the chest, by which arrangement is obtained a saving of muscular force, and increased facilities for rapid and continued utterance of sound. The following remarks of this distinguished author, extracted from the monograph alluded to, will be read with interest.

" It is now my purpose to show that in articulating, in forming the consonants, the pharynx is a very principal agent ; and that this small cavity is substituted for the larger cavity of the chest to the great relief of the speaker, and the incalculable saving of muscular exertion.

The late Dr. Young made a comparison of the power employed by a glassblower, in propelling the air through his tube by the force of his cheeks, and in propelling it by the force of his lungs ; and calculating the ease with which the lesser cavity is compressed in comparison with the greater—that is, the cavity of the mouth compressed by the muscles of the cheeks, compared with the whole extent of the chest compressed by the muscles of respiration—he concluded that the weight of four pounds would produce an operation through the smaller cavity, equal to seventy pounds weighing on the larger.

The quality of fluids, by which they transmit pressure equally in all directions, is the cause of this and of some other results which appear paradoxical. It is a property, too, nearly allied to mechanical power, and too important to be left out of the scheme of animal structure.

When a forcing pump is let into a reservoir, it produces surprising effects. The piston of the hydraulic press being loaded with one pound, the same degree of pressure will be transmitted to every part of the surface of the reservoir, equal in magnitude to the base of the piston. And on the contrary, supposing the power to be employed on the reservoir for the purpose of raising the piston, it would require the weight of a pound on every portion of the surfaces of the reservoir equal in extent to the base of the piston, to raise the piston with the force of one pound.

We cannot fail to notice the effect of this law on the cavities of the animal body, in diminishing the power of muscular bags in proportion to their increased capacity.

Elastic fluids are subject to a similar influence, from the pressure extending in every direction, and the resistance always being equal to the pressure. A man standing on the hydraulic bellows raises himself by blowing into the tube ; and contrariwise, the weight of his body does not produce from that tube a blast superior to the force of contraction of his cheeks. A very slight pressure against the nozzle of the common bellows, will resist the compression of the handle ; and by blowing into the nozzle we may raise a great weight placed on the boards. To reconcile us to the influence of this principle as applicable to the animal economy, we shall take an example before applying it to our present subject.

A sailor leaning his breast over a yard-arm, and exerting every muscle on the rigging, gives a direction to the whole muscular system, and applies the muscles of respiration to the motions of the trunk and arms, through the influence of a small muscle that is not capable of raising the thousandth part of the weight of the body. He raises himself by the powerful combination of the muscles of the abdomen, chest and arms; but these muscles are controlled and directed by the action of a muscle which does not weigh five grains. The explanation is this. A man preparing for exertion, draws his breath and expands his chest. But how is this dilatation to be maintained? If the muscles which expand the chest are to continue it in action to preserve it expanded, there must be a great expenditure of vital force; besides, these muscles are now wanted for another office. The small muscle that closes the chink of the glottis suffices. It contracts on the extremity of the windpipe; and here acting so as to exclude the column of air, it is superior to the united force of all the muscles of the chest and trunk of the body, which act on the cavity of the thorax. However powerful the muscles of expiration may be in compressing the chest, their influence is very small on the column of air contained in the windpipe; the pressure there being no more than on any part of the walls of the chest, which is of the same diameter of the base of the tube. The closing of the glottis by this small muscle, leaves all those of the chest and abdomen, which are otherwise muscles of respiration, free to act as muscles of the trunk and arms.

These facts lead us to the further contemplation of the pharynx. We see it to be a large cavity behind the palate, formed by a dilatable bag, and acted on by many muscles. The volume of sound issues into it from the glottis below, and although it opens into the nose above, yet this passage is closed whenever the velum is raised like a valve in the manner just described; at such a time, if the mouth be also shut, the bag will be closed on all sides, and may then suffer distension by the vocalized breath ascending through the glottis.

In speaking, much of the sound, as of the vowels and diphthongs, is the uninterrupted issue of the vocalized breath, modulated by the passages, and differently directed, but not checked or interrupted. The consonants are the same sounds, checked by the tongue, lips or teeth. At the moment of this interruption, the pharynx, being distended, is prepared to give an impulse by its muscular action, exactly in time with the parting lips.

If we grasp the throat while speaking, so that the fingers embrace the bag of the pharynx, we shall feel that each articulate sound is attended with an action of the pharynx; and preceding each explosive letter, we shall be sensible of a distension of the throat. By a close attention to the act of breathing, we shall perceive that while the distended chest falls gradually and uniformly, the bag of the pharynx is alternately distended and compressed in correspondence with the articulated sounds.

We perceive, then, that there are two sources of the force with which words are uttered—the throat and the pharynx. The emphatic delivery of several words or syllables must proceed from the forcible expulsion of the breath by the effort of expiration; but the emphasis on the single syllable, and the forcible enunciation of the letter, on which the clearness and distinctness, and sometimes the meaning of words, depend, must be produced by the efforts of the pharynx."

COPELAND'S DICTIONARY OF PRACTICAL MEDICINE.

In the course of our brief notice, several months ago, of the publication of this work in England, we remarked that Messrs. Lilly & Wait intended to republish it. Their edition is now out, and they deserve great credit for the exceeding beauty with which the work is executed. The style of the reprint is the same, in every particular, as the original, and in every particular it must meet the unqualified approbation of the American Faculty.

It will be recollectcd that the work is on the plan of Cooper's *Surgical Dictionary*, and it will serve, to the practising physician, as a text-book in medicine, of a value not inferior to that which is universally awarded to the latter in its department of the healing art. This Dictionary of Dr. Copeland is to be completed in five parts at one dollar each, and a cheaper work has never perhaps been published in the country.

Laryngeal Spasm.—By J. K. WALKER, M.D. One of the last examples of this spasmodic affection, which has fallen under my observation, occurred in an infant whose health, in other respects, did not materially suffer. The attacks of crowing inspiration returned at intervals, sometimes during the night ; occasionally they were accompanied by a rigidity of the thumbs and toes, often with convulsions. At all other times the child was playful and lively. The gums were lanced, and the bowels maintained in an open state with the aid of calomel, and the occasional use of clysters medicated with assascetida or spir. terebinth. On the supposition that, from the violence of these attacks, some cerebral affection might supervene, leeches were applied to the neck. From a steady perseverance in these remedies, no advantage was reaped beyond a temporary respite from these apasmotic shocks. They again returned, and the gums were again divided, and counter-irritation applied to the nape of the neck. At the time I was first consulted in the case, the child was slightly relieved by a tonic plan of treatment, and by the sulphur quininæ repeated in small doses. But on reading the cases narrated by Dr. Marshal Hall, where such striking benefits resulted from a change of air under similar circumstances, I had no hesitation in recommending a trial of the same plan in this case ; and after a removal to Matlock, the child experienced fewer of these convulsive movements, and in a few weeks they ceased entirely, and a rapid amendment in health and strength ensued.—*Trans. Prov. Med. and Surg. Assoc.*

Phosphuretted Hydrogen.—Rose proves that the gas obtained by heating hypo-phosphorous, or phosphorous acid, and the hypo-phosphates, and which is spontaneously inflammable in the air, is a base. It ranks them with ammonia, as being a basic compound of hydrogen with a simple substance.—*Ann. de Chim. et Phys.*

Whole number of deaths in Boston for the week ending January 18, 33. Males, 14—Females, 19.
Of burns, 1—marasmus, 1—fits, 1—throat distemper, 1—intemperance, 1—lung fever, 2—scarlet fever, 1—consumption, 2—dropsey on the brain, 1—infantile, 3—hooping cough, 1—roup, 3—canker, 1—dysentry, 1—old age, 2—apoplexy, 2—accidental, 1—asthma, 1—ulcer, 1—disease of the head, 1—disease of the heart, 1—Stillborn, 2.

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